# (19) World Intellectual Property Organization

International Bureau





### (43) International Publication Date 1 September 2005 (01.09.2005)

**PCT** 

# (10) International Publication Number WO 2005/080119 A1

(51) International Patent Classification<sup>7</sup>: B60K 31/00, B60R 21/01

(21) International Application Number:

PCT/IB2005/000149

(22) International Filing Date: 21 January 2005 (21.01.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004-020307 2004-202401 28 January 2004 (28.01.2004) JF 8 July 2004 (08.07.2004) JF

(71) Applicant (for all designated States except US): TOY-OTA JIDOSHA KABUSHIKI KAISHA [JP/JP]; 1, Toy-ota-cho, Toyota-shi, Aichi-ken 471-8571 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): TOKORO, Setsuo [JP/JP]; Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi-ken 471-8571 (JP). ABE, Kyoichi [JP/JP]; Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi-ken 471-8571 (JP). SUZUKI, Koji

[JP/JP]; Toyota Jidosha Kabushiki Kaisha, 1, Toyota-cho, Toyota-shi, Aichi-ken 471-8571 (JP).

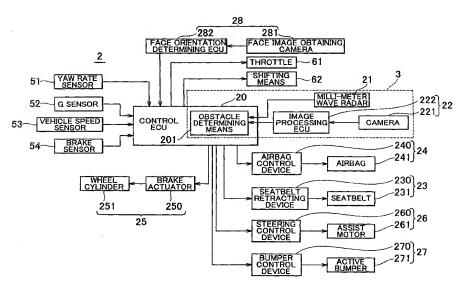
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

[Continued on next page]

## (54) Title: RUNNING SUPPORT SYSTEM FOR VEHICLE



(57) Abstract: There is provided a running support system for a vehicle, which supports running of a vehicle by using a radar and image recognition means as obstacle detecting means, and in which appropriate support control based on a result of detection performed by each control means is set. A result of obstacle detection performed by a millimeter wave radar (21) is checked against a result of obstacle detection performed by image recognition means (22). Then, a starting condition for the running support control is changed depending on whether an obstacle has been detected by both the millimeter wave radar (21) and the image recognition means (22), or an obstacle has been detected by only one of the millimeter wave radar (21) and the image recognition means (22). Thus, the control support is performed based on an inattentive condition of a driver.

# WO 2005/080119 A1



— with amended claims

Date of publication of the amended claims: 1 December 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.